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REMARKS

Claims 1-17 are pending in the present application. Reconsideration is respectfully requested for the following reasons.

Claims 1, 2, 6-8 and 12-14 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,248,994 to Rose et al. in view of U.S. Patent No. 4,824,250 to Newman and U.S. Patent No. 6,424,407 to Kinrot et al. The requirements for making a prima facie case of obviousness are described in MPEP §2143 as follows:

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

A statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art at the time the claimed invention was made,' because the references relied upon teach all aspects of the claimed invention were individually known in the prior art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).

In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art. *In re Fritch*, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992); M.P.E.P. §2142. Applicants respectfully assert that the Examiner has not yet met the Examiner's burden of establishing a prima facie case of

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obviousness with respect to the rejected claims. Consequently, the Examiner's rejection of the subject claims is inappropriate, and should be withdrawn.

In regard to the first criterion of obviousness, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. First, there is no suggestion or motivation for removing the Fourier-transforming means as disclosed in the Rose et al. '994 patent as set forth in the Office Action. The Rose et al. '994 patent discloses that the method and apparatus disclosed therein is advantageous because the angular displacement of one or more parts of an object can be obtained independent of a distance of an object, any longitudinal or transversal movement of the object, the wavelength of the source, the shape of the object and the radius of angular displacement. See lines 10-24 of column 3. Accordingly, the Rose et al. '994 patent teaches against any modification wherein the Fourier-transforming means is not included. There is no suggestion to combine references if a reference teaches away from its combination with another source. *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Therefore, the Rose et al. '994 patent teaches away from any combination wherein the Fourier-transforming means is removed. Moreover, the Rose et al. '994 patent states that refractive convex lenses or cylinder lenses are preferred because such lenses provide for simple systems made with standard components. In other words, refractive convex lenses or cylinder lenses are the least expensive Fourier-transforming means. Second, according to the Office Action, "[i]t would have been obvious to include the teaching of Kinrot measurement of translation and the Rose system in order to provide a method and apparatus that can detect the movement of an object toward and away from the detector in non-contacting fashion." However, the object 10 as disclosed in the Rose et al. '944 patent does not move towards or away from the image sensor 18. Therefore, there is no suggestion or motivation for combining the Kinrot '407 patent with the Rose et al. '944 patent and/or the Newman '250 patent because there is no motivation for providing the capability of detected movement of an object toward or away from a detector when the object does not move toward or away from the detector. Furthermore, along these same lines, the Rose et al. '994 patent discloses that the angular displacement of the object 10 as determined using the method disclosed therein is independent of any longitudinal or

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transversal movements of the object. Therefore, the Rose et al. '994 patent teaches against a capability of detecting movement of an object towards or away from a detector because such movement is inconsistent with the purpose of the Rose et al. '994 patent. Finally, the Kinrot et al. '407 patent discloses that the preferred embodiment of the invention uses "speckle-free, coherent detection." See lines 62-67 of column 26. There is no suggestion or motivation for using a non-speckle detection means in a speckle detecting system. Accordingly, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. Therefore, claims 1, 2, 6-8 and 12-14 define unobvious patentable subject matter and are in condition for allowance.

In regard to the third criterion of obviousness, the prior art references do not teach or suggest all of the claim limitations. Even if it would have been obvious to combine the Rose et al. '994 patent, the Newman '250 patent and the Kinrot et al. '407 patent, any resulting combination would not include the features of rejected claim 1. Claim 1 defines a method for measuring the amount which an object to be measured has moved in a plane and back and forth using a granular speck pattern generated by a reflecting laser beam in non-contact fashion comprising, among other things, irradiating an object to be measured with a laser beam, directly detecting the granular speck pattern generated by the reflecting laser beam by a detector and using the detected speck pattern as an index, moving the object toward or away from the detector, calculating the amount of movement of the object and displaying a result of the calculation as a numerical value of the measured amount of movement. The prior art of record does not disclose or suggest the above noted features of claim 1. Specifically, the combination as set forth in the Office Action does not provide for a method wherein an object is moved toward or away from a detector. While the combination as set forth in the Office Action provides for an apparatus that can detect movement of an object towards or away from a detector, the combination does not provide for moving the object and there is no suggestion or motivation for moving the object. Accordingly, claim 1 is in condition for allowance.

Claims 3, 9 and 15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the Rose et al. '994 patent in view of the Newman '250 patent and further in view of

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U.S. Patent No. 6,424,407 to Kinrot et al. Claims 3, 9 and 15 depend from claims 2, 8 and 14, respectively. Since claims 2, 8 and 14 define unobvious patentable subject matter as discussed above, claims 3, 9 and 15 define unobvious patentable subject matter. Nevertheless, in order to establish a prima facie case of obviousness, three basic criteria must be met, according to the Manual of Patent Examining Procedure, §706.02(j). These three are repeated as follows. Firstly, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Secondly, there must be a reasonable expectation of success. Thirdly, the prior art reference (or references) must teach or suggest all the claim limitations. Applicant respectfully asserts that the Examiner has not met his burden of establishing a prima facie case of obviousness with respect to the rejected claims. Consequently, the rejection of the subject claims is inappropriate, and should be withdrawn.

In regard to the first criterion of obviousness, there is no suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to combine the reference teachings. As discussed above regarding claims 1, 2, 6-8 and 12-14, there is no suggestion or motivation for combining the Rose et al. '944 patent with the Newman '250 patent and the Kinrot et al. '407 patent. The arguments set forth describing the lack of suggestion or motivation for combining the Rose et al. '944 patent with the Newman '250 patent and the Kinrot et al. '407 patent apply to a combination of the Rose et al. '994 patent, the Newman '250 patent, the Kinrot et al. '407 patent and Japanese Patent 404021255A and are hereby incorporated regarding the rejection of claims 3, 9 and 15. Furthermore, there is no suggestion or motivation for combining the teachings of Japanese Patent 404021255A to the three patents discussed above. According to the Office Action "[i]t would have been obvious to include the teachings of Omura [Japanese Patent 404021255A] light shield section in the Rose system in order to measure the amount of movement of an object in non-context fashion accurately." Japanese Patent 404021255A discloses that the light shield section 104 is used to stop first order diffraction components 6 and 8 coming from a color decomposing element 3 made of a linear blazed diffraction grating into a line sensor 4b.

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Since the combination of the three patents discussed above does not include a defraction grading, there is no need to prevent light defracted from entering a line sensor. Furthermore, Applicant submits that the scanning method as disclosed in the Newman '250 patent could only possibly be used in a dark room, and therefore the combination as set forth in the Office Action could only be used in a dark room. Therefore, using a light shield section 104 as set forth by Japanese Patent 404021255A would not improve the accuracy of the system set forth in the Office Action because there would be no light besides the speckled pattern in the room to be sensed. Consequently, any light shield section would not improve the accuracy of any measurement. Accordingly, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. Therefore, claims 3, 9 and 15 are in condition for allowance.

Claims 4, 5, 10, 11, 16 and 17 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the Rose et al. '994 patent in view of the Newman '250 patent, the Kinrot et al '407 patent, the Japanese Patent 404021255A and further in view of U.S. Patent No. 5,864,944 to Kashiwagi et al. Claims 4, 5, 10, 11, 16 and 17 depend from claims 2, 3, 8, 9, 14 and/or 15. Since claims 2, 3, 8, 9, 14 and 15 define unobvious patentable subject matter as discussed above, claims 4, 5, 10, 11, 16 and 17 define unobvious patentable subject matter. Nevertheless, in order to establish a prima facie case of obviousness, three basic criteria must be met, according to the Manual of Patent Examining Procedure, §706.02(j). These three are repeated as follows. Firstly, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Secondly, there must be a reasonable expectation of success. Thirdly, the prior art reference (or references) must teach or suggest all the claim limitations. Applicant respectfully asserts that the Examiner has not met his burden of establishing a prima facie case of obviousness with respect to the rejected claims. Consequently, the rejection of the subject claims is inappropriate, and should be withdrawn.

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In regard to the first criterion of obviousness, there is no suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to combine the reference teachings. As discussed above regarding claims 1, 2, 3, 6-9 and 12-15, there is no suggestion or motivation for combining the Rose et al. '944 patent with the Newman '250 patent, the Kinrot et al. '407 patent and Japanese Patent 404021255A. The arguments set forth describing the lack of suggestion or motivation for combining the Rose et al. '944 patent with the Newman '250 patent, the Kinrot et al. '407 patent and Japanese Patent 404021255A apply to a combination of the Rose et al. '994 patent, the Newman '250 patent, the Kinrot et al. '407 patent, Japanese Patent 404021255A and the Kashiwagi et al. '944 patent, and is hereby incorporated regarding the rejection of claims 4, 5, 10, 11, 16 and 17. Furthermore, there is no suggestion or motivation for combining the teachings of the Kashiwagi et al. '944 patent and the four patents discussed above. According to the Office Action "[i]t would have been obvious to include the teachings of Kashiwagi line sensor in the Rose and Omura [Japanese Patent 404021255A] combination in order to measure the amount of movement of an object in non-context fashion accurately." The Applicant submits that the modification as set forth in the Office Action would not improve the accuracy of any measurement and therefore there is no suggestion or motivation for making the modification as set forth in the Office Action. Applicant notes that it is impermissible within the framework of §103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art. *In re Wesslau*, 353 F.2d 238, 241, 147 USPQ 391, 393 (CCPA 1965); see also *In re Mercer*, 515 F.2d 1161, 1165-66, 185 USPQ 774, 778 (CCPA 1975). Accordingly, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. Therefore, claims 4, 5, 10, 11, 16 and 17 are in condition for allowance.

In regard to the third criterion of obviousness, the prior art references when combined do not teach or suggest all of the claim limitations. All of the claims define a lensless method (claims 1 and 7) or a lensless apparatus (claims 2-6 and 8-17). The Kashiwagi et al. '944

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patent discloses a cylindrical tube 31 that has a lens system 32 and a line sensor 33 thereon. See lines 14 and 15 of column 5. Therefore, if the cylindrical tube 31 as disclosed in the Kashiwagi '944 patent is used in a combination, the resulting combination would include a lens system. Once again, Applicant notes that it is impermissible within the framework of §103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art. *In re Wesslau*, 353 F.2d 238, 241, 147 USPQ 391, 393 (CCPA 1965); see also *In re Mercer*, 515 F.2d 1161, 1165-66, 185 USPQ 774, 778 (CCPA 1975). Accordingly, the combination including the cylindrical tube 31 as disclosed by the Kashiwagi et al. '944 patent as set forth in the Office Action would not include a lenseless method (claims 1 and 7) or a lenseless apparatus (claims 2-6 and 8-17). Therefore, claims 4, 5, 10, 11, 16 and 17 are in condition for allowance.

All pending claims 1-17 are believed to be in condition for allowance, and a Notice of Allowability is therefore earnestly solicited.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version With Markings to Show Changes Made."

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 3, 9, 13 and 15 have been amended as follows.

3. (Amended) The apparatus as defined in claim 2 and further including a light shield [position] positioned in front of said line sensor.

9. (Amended) The apparatus as defined in claim 8 and further including a light shield [position] positioned in front of said line sensor.

13. (Twice Amended) A lensless apparatus for measuring the amount which an object to be measured has moved in a plane and back and forth using a granular speck pattern generated by a reflecting laser beam, said apparatus comprising:

a collimated light source for generating a granular speck pattern corresponding to the surface of an object to be measured;

a line sensor positioned to detect directly without a lens said granular speck pattern as an index; and

an electrical circuit coupled to said line sensor for calculating the amount of movement of said object on the basis of movement of the granular speck in said pattern with respect to a pixel interval of said granular speck pattern picked up by said line sensor and displaying the amount of movement calculated by said [processing unit] electrical circuit.

15. (Amended) The apparatus as defined in claim 14 and further including a light shield [position] positioned in front of said line sensor.